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ABSTRACT

This report, which summarizes computer training directed toward Indiana public school teachers in the period of 1983 through 1986, includes the directives for the Indiana Consortium for Computer and High Technology Education at the time of its creation in 1983 by the Indiana General Assembly. Also described are training initiatives in seven program areas: (1) regional teacher training centers; (2) summer training institutes; (3) formula allocations to local school corporations; (4) low interest loans for hardware acquisition; (5) regional software clearinghouse/preview centers; (6) computing conferences; and (7) computer demonstration programs. (Author/EW)

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INDIANA'S APPROACH TO COMPUTER TRAINING FOR TEACHERS

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INDIANA'S APPROACH TO COMPUTER TRAINING FOR TEACHERS

PRESENTED AT

NATIONAL EDUCATIONAL COMPUTING CONFERENCE
SAN DIEGO, CALIFORNIA
JUNE 5, 1986

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INDIANA'S APPROACH TO COMPUTER TRAINING FOR TEACHERS

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INTRODUCTION

Advances in computer technology and the resulting proliferation in the availability of low-cost computer systems and software are having a profound effect on our economy and all aspects of our society. The trends producing these impacts are expected to continue and increase in force through the rest of this century. At the some time, the teachers and administrators in our elementary and secondary schools generally lack sufficient resources and experiences in the use of this technology to effectively prepare students for the information age. In recognition of this situation, the Indiana General Assembly during its 1983 session passed Public Law 216-1983 which seeks to promote the development of computer related education in elementary and secondary schools in three ways:

Amendment of Indiana state law to allow local school corporations to expend monies from cumulative building funds or sinking funds for the purchase, upgrade, maintenance, and repair of computer hardware and software for instructional purposes.

Establishment of the School Technology Advancement Account within the Common School Fund for the purpose of providing local school corporations with loans to fund the development of computer education programs.

Creation of the Indiana Consortium for Computer and High Technology Education to:

Coordinate the training of teachers in computer instruction skills.

Establish regional clearinghouses for computer instruction information.

Advise the Commission on General Education on the administration of the of the School Technology Advancement Account.

In its initial meetings to develop a plan of action to carry out its legislative mandate, the Consortium adopted twelve specific goals addressing the three areas of responsibility assigned the Consortium by the General Assembly.

Initiate a broadly based training effort to provide all teachers with the opportunity to achieve a minimal level of computer literacy.

Provide appropriate training for teachers preparing to teach computer literacy.

Ensure the availability to Indiana teachers of a variety of specialized computer related training opportunities which can be selected by teachers based on professional interest and local curriculum requirements.

Provide access to descriptive and evaluative information with respect to software available for classroom use.

Provide the opportunity for teachers and school systems to share experiences with and innovative approaches to the use of computers in the classroom.

Provide local school corporations with expert advice on the educational use of computers upon request.

Provide local school corporations with information and procedural guidance in the procurement of equipment and software for educational purposes.

Assist local school corporations in realizing cost savings in the procurement of computer equipment and software for educational purposes.

Provide support for the computer related teacher training programs.

Promote ethical practices in the procurement and distribution of educational software.

Recommend guidelines for the administration of the School Technology Advancement Account which will provide low interest funding for the purchase of computer equipment and couresware to those local school districts which would otherwise not have the resources to fund sufficient equipment to meet local requirements.

Recommend means for providing maintenance funding for the operation and updating of computer related programs.

REGIONAL TRAINING CENTERS

LEVEL I TRAINING

The Indiana Consortium for Computer and High Technology Education felt that the key to promoting the development of computer related instruction in Indiana's schools was to provide teachers with an understanding of the computer and the knowledge to use it effectively in the classroom. Further, the integration of the computer into the curriculum and its effective use as a learning resource at all grade levels requires that most, if not all, teachers have the knowledge necessary to use this tool with confidence. Accordingly the Consortium established as one of its primary goals:

"Initiate a broad based training effort to provide all teachers with the opportunity to achieve a minimal level of computer literacy."

The Consortium felt that this minimal level of computer literacy must include both a basic knowledge of the computer and its capabilities and the knowledge and confidence necessary to effectively utilize the computer in the classroom. The Consortium determined that a training program designed to deliver this minimal level of computer literacy should consist of three days (18 hours) of instruction and "hands-on" computer usage. The training was based on a standard statewide curriculum with the following specific content objectives:

Knowledge of how a computer operates including the basic components and their functions.

Knowledge of the history of computer development and major new capabilites anticipated for the next few years.

Appreciation of the current and expected future impact of computers on our society.

Understanding of fundamental programming concepts and experience in writing simple computer programs.

Knowledge of and experience with relevant uses of the computer as a teaching tool and as a classroom management tool.

Understanding of the legal and ethical issues involved in the copying and distribution of computer software.

"Hands-on" experience in the use of the computer for a variety of classroom functions and applications.

This basic computer literacy training was delivered at nine Teacher Training Centers established by the Consortium at locations geographically distributed around the state. Three pilot centers began operation in January of 1984 with all nine centers operating by April, 1984. This delivery strategy was based on three key considerations:

The Consortium determined that this training could be most effectively delivered and absorbed through an intensive three day format with all formal instruction scheduled during normal working hours.

The Consortium felt that the some basic information should be delivered to all teachers selecting this program. The use of a limited number of Teacher Training Centers delivering the same core curriculum for three days of training served to ensure some consistency in the training received.

An approach based on a total of nine centers was adopted by the Consortium to reach more teachers and to ensure that a reasonably convenient center would be available to all local school districts.

Each of the nine Teacher Training Centers funded by the Consortium was responsible for delivering training to teachers in an assigned geographic area surrounding the center site. It was the responsibility of the Teacher Training Center to manage registrations and class schedules in a manner which assured both effective utilization of training capacity and equitable distribution of training opportunities to the school corporations assigned to the center.

The Consortium sponsored the development of a standard curriculum to support the specified curriculum objectives. Standard curriculum materials included a suggested agenda, computer software, readings, transparancies and other media materials to support the presentation of material by the instructor. Each Teacher Training Center was responsible for the development of selected curriculum materials on a local initiative basis. Teacher Training Centers were encouraged to vary the content to fit the grade level and subject area needs of the participating teachers.

The Consortium felt that it should make basic literacy training available to all interested elementary and secondary teachers. While the number of teachers desiring this training was not known, the Consortium established a program for reaching eighteen thousand (18,000) teachers with this training by June 30, 1985. This represented a substantial (30%) penetration of the active elementary and secondary school teacher population. Additional requests for training resulted in the continuation of Level I training until August 30, 1985 which reached 18,873 teachers, nearly 36% of all Indiana teachers.

BASIC LEVEL TRAINING

INDIANA CONSORTIUM FOR COMPUTER AND HIGH TECHNOLOGY EDUCATION

DAY I

OBJECTIVE I: INTRODUCE PARTICIPANTS TO BASIC COMPUTER TERMINOLOGY AND SIMPLE COMPUTER OPERATION

8:30 A.M
1. Registration of participants
2. Introduce participants
3. Issue pretest [optional]
4. Distribute materials for day 1

9:00 A.M.
1. Discuss the components of the computer and their function. (TRANSPARENCY NO. 1)
2. Show the correct handling and loading of a disk
   a. Take a disk out and show what it looks like
   b. Make sure the disk is not inserted or removed when the red light is on
   c. Tell them not to touch the disk itself
3. Instruct the participants on the correct method of turning on the computer
4. Have the participants insert a disk and run a simple program, e.g., Apple Presents Apple

10:00 A.M. BREAK

OBJECTIVE II: RUN AN INSTRUCTIONAL SOFTWARE PROGRAM

1. Show the various methods of booting a disk
   a. Turning on the computer with a disk in the drive (Apple)
   b. Booting from the keyboard (Apple and IBM)
2. Have the participants run a generic program such as Mastertype, Elementary My Dear Apple, etc.
3. Question and answer session and summary of morning activities

11:30 A.M. LUNCH

OBJECTIVE III: DEMONSTRATE INSTRUCTIONAL SOFTWARE AND IDENTIFY EVALUATION CRITERIA

NOTE: Based on the registration forms, the presenter should identify several pieces of software for demonstration purposes which are appropriate for the audience.

12:30 P.M. 1. Go through a piece of software with the entire group and evaluate the program
   a. Point out the standard evaluation criteria
      *color
      *sound
      *pacing
      *reading level
      *content accuracy
   b. Show correlation between software evaluation and other instructional materials
   c Involve the group in the evaluation

2. Discuss what you do if the program does not load and run properly
   a. Check to see if the disk is loaded correctly
   b. Remove the disk and start over again.
   c. Turn the machine off, wait a few seconds and reload the program

3:00 P.M. 1. Discuss several resources available to assist teachers in the evaluation of software
   a. MICROsift
   b. ICCE
   c. EPIE
   d. <u>Evaluation of Evaluations</u>

3:30 P.M. ADJOURN

DAY II

<u>OBJECTIVE IV:</u> INTRODUCTION OF DISK OPERATING PROCEDURES AND BASIC PROGRAMMING IN BASIC

8:30 A.M. 1. Distribute materials for day 2
2. Initializing/formatting a disk
   a. Write a short program and initialize a disk or use the DOS disk to format a disk
   b. Have the participants run a short program and then list it to show them a program
   c. Point out that not all computers are compatible
3. Introduce basic programming
   a. Write a short program which will print the name and address of the participant
   b. Go over the procedure for saving, running, listing, and loading a program
   c. Allow participants to work through the activity packets.

10:45 A.M. 1. Demonstrate the development of a program in BASIC
   a. Show how to construct a program.
   b. Encourage group envolvement
   c. Have the participants enter the program, then LIST, RUN, and SAVE it on their disk

NOTE: DEVELOP SEVERAL SHORT PROGRAMS THAT CONTAIN MOST OF THE INSTRUCTIONS COVERED IN THE MORNING SESSION AND HAVE THEM READY TO DEMONSTRATE, E.G., GRADE BOOK PROGRAM, SPELLING PROGRAM, MULTIPLE CHOICE TEST, OR SIMPLE MATH QUIZ.

11:30 A.M. LUNCH

OBJECTIVE V: DEMONSTRATE AND USE APPLICATION SOFTWARE

12:30 P.M. This part of the training allows for several options and is repeated on the afternoon of day 3. The types of programs covered should reflect the needs, grade levels, and interests of the audience.

1. Word processing
   a. Use a simple word processing program, e.g., Bank Street Writer or Scripsit
   b. Discuss the applications for word processing programs
   c. Allow the participants time to use the program
2. Authoring Systems
   a. Explain authoring systems, what they are, and how they can be used
   b. Show a program to the audience, e.g., MECC Teacher Utilities (740, 741, 742) or The Learning Center
   c. Give the participants time to use the program to make it appropriate for their students
3. Diagnostic/Prescriptive Programs
   a. Demonstrate a program such as the Diagnositic/Prescriptive Math program by Hartley
   b. Have the participants use the software for a sample class
4. Reading Level Analysis
   a. Show how to use one of the reading analysis programs, e.g., MECC Readability or Reading Level by School Courseware
   b. Have the participants use the software to determine the reading level of one of their textbooks or compare to similar textbooks

5. Grade Book Program
   a. Select and demonstrate a grade book program such as the MECC Grade Book Management program
   b. Give the participants time to set up a class and generate test scores, grade averages, etc.
6. Materials Generation Program
   a. Discuss some of the different types of software which generate materials and how they can be used
   b. Demonstrate one of the programs such as Wordfind or Test Generation
   c. Allow the participants to use the program to generate sample materials for their class
7. LOGO
   a. Introduce participants to LOGO
   b. Explain differences between BASIC and LOGO
   c. Have the participants do activities with LOGO to familiarize them with the different instructions

3:15 A.M. SUMMARY

3:30 ADJOURN

DAY III

<u>OBJECTIVE VI:</u> DEVELOP A GREATER PROFECIENCY WITH PROGRAMS INTRODUCED ON DAY TWO

8:30 A.M.
1. Distribute materials for day 3
2. Allow participants time to work more in their programming workbooks
3. Some of the participants may want to continue with the program(s) introduced in the afternoon of day two

<u>OBJECTIVE VII</u> INTRODUCTION OF COMPUTER LITERACY

10:15 A.M.
1. Discuss topics usually covered in computer literacy classes
   a. Impact of computer on society
   b. History and future of computers
   c. Peripherals which are affecting how computers are used in schools (modems, voice synthesizers, graphics tablets, laser disks, etc.

2. Curricululm considerations
   a. Establishing goals and objectives
   b. Scope and Sequence
   c. Evaluation
   d. Special populations (gifted/talented, special education, ESL, etc.)

11:30 A.M. LUNCH

12:30 P.M. Repeat of the afternoon session of day 2. Trainers should select programs not covered in day 2

1. Word processing
2. Authoring Systems
3. Diagnostic/Prescriptive Progams
4. Reading Level Analysis
5. Grade Book Programs
6. Materials Generation Programs
7. LOGO

3:00 P.M.
1. Summarize the workshop
2. Answer questions
3. Distribute Posttest
4. Distribute workshop evaluation forms

3:30 P.M. ADJOURN

REGIONAL TRAINING CENTERS

LEVEL II TRAINING

Having reached the goal set forth in the 1984-1985 plan, the Indiana Consortium for Computer and High Technology Education decided to focus on more specialized training directed at meeting the specific needs of local schools. Referred to as Level II Training, this training would build upon the skills acquired either during the basic level training or from teachers' experiences in other training programs or their own classroom.

During the 1985-1986 school year and the summer of 1986, the Consortium offered Level II training throughout the State. The nine Regional Training Centers , established in 1984 for the implementation of the basic computer literacy training, were responsible for delivering Level II training modules to approximately 8,000 teachers. The shift to modular training was designed to meet the specific needs of school districts within the various regions.

The objectives of Level II training were to:

Provide more specialized training at various grade levels in a number of curriculum areas;

Place the emphasis of training on the integration of computers into the curriculum;

Allow teachers to use software in their specific area and/or grade level;

Focus training on key building level teachers who would return to their districts and share their knowledge with their peers;

Provide a large variety of standardized training modules which match the needs of a school district and its teachers;

Demonstrate the use of applications programs including, word processing, data bases, electronic spreadsheets, and teacher utility programs;

Develop a network of district resource persons who would be responsible for providing computer training at the local level; and

Initiate training efforts compatible with training provided through summer institutes and formula allocation programs.

The responsibilty of module development was shared by the Regional Training Center directors and their personnel. When a module was developed, it was disseminated to all of the remaining Training Centers, the Indiana Clearinghouse for Computer Education and the Indiana Department of Education. The content of the training modules was to emphasize making the teacher comfortable with the software and giving them practical applications for their specific area and/or grade level in order to use the software and ideas in their classroom. Modules varied in length from one to six days with the average being two days of training.

While each Regional Training Center was responsible for the scheduling of Participant Training Days, a number of criteria determined by the Consortium had to be met in order for all districts to be equitably served and to ensure the quality of instruction among the regions. In August 1985, all of the Regional Training Centers responded to a Request for Proposals that addressed the following items:

Most of the training will take place in the Regional Training Centers with the possibility of some training being conducted at outreach sites within the region.

Each of the Training Centers is expected to provide a teacher to computer ratio of 1:1 with a maximum of fifteen (15) participants per session.

Software commonly used with the major brands of computers in schools will be purchased in order to provide greatest applicability.

The Training Centers will deliver all of the modules at least once.

Because of the more specialized orientation of Level II training, instructors should be qualified classroom teachers with experience using the software.

Taking two days as an average, it is expected that 8,000 (15%) of Indianas' educators will experience Level II training by August 30, 1986. Particpant Training Days making up Level II training were dedicated to teachers, adminstrators and support personnel.

LEVEL II TRAINING MODULES

Software Utilization in the Primary Classroom
2 Days

Software Utilization in the Upper Elementary Classroom
2 Days

Teacher Utility Programs for Elementary Teachers
2 Days

Electronic Spreadsheets in the Middle School Mathematics Curriculum 2 Days

Electronic Spreadsheets in the Secondary Mathematics Curriculum 2 Days

Data Bases in the Middle School Science Curriculum
2 Days

Data Bases in the Secondary Science Curriculum
2 Days

Data Bases in the Middle School Social Studies Curriculum
2 Days

Data Bases in the Secondary Social Studies Curriculum
2 Days

Teaching Word Processing to Elementary Students
2 Days

Word Processing in the Middle School Language Arts Curriculum
2 Days

Word Processing in the Secondary Language Arts Curriculum
2 Days

Teacher Utilities for Middle School Teachers
2 Days

Teacher Utilities for Secondary Teachers
2 Days

Computing Issues/Concerns/Applications for the School Administrator 2 Days

Computing Issues/Concerns/Applications for Key Instructional Contact Persons 6 Days

Teaching Keyboarding Skills to Elementary Children
1 Day

Teaching Thinking Skills by Using Computer Simulations
2 Days

Introducing School Personnel to Developments in Computing and Related Technologies 1 Day

SUMMER INSTITUTES

Starting in the summer of 1984 and each summer thereafter, teacher training institutes have been funded through competitive grants to Indiana teacher training institutions. The institutes are to:

- Utilize the facilties and expertise of Indiana teacher training institutions to deliver advanced training in instructional computing;
- Encourage the development of innovative programs which address evolving technological issues of relevance to teachers;
- Provide a mechanism to deliver on a statewide basis a variety of specialized training programs which could not be delivered locally;
- Encourage teacher training institutions to play an active role in assisting local schools in making effective use of information technology.

Proposals may be submitted in any content area but must contain a plan for at least 25 contact hours. Most institutes carry one or two semester hours of credit.

Each year, higher education institutions submit proposals in February. Proposals are reviewed and the funded programs are announced in March or April. For the years which the program has been in existence; a budget of $300,000 per summer has existed.

The following attachments shows the institutes which were funded for 1984, 1985, and 1986. Note the evolution of topics in the three year span. A topic such as interactive videodisc was not technologically possible in 1984. Other topics which were offered in the first group of institutes (1984) were subsumed into training modules offered at regional training centers in Level II training.

SUMMARY SHEET

1984 SUMMER TRAINING INSTITUTE GRANTS

INDIANA CONSORTIUM FOR COMPUTER AND HIGH TECHNOLOGY EDUCATION

COLLEGE/UNIVERSITY	TITLE OF INSTITUTE(S)	DATES	SELECTION CRITERIA	# OF OPENINGS	PROGRAM DIRECTOR
Ball State	Applications of Microcomputers in the Humanities	6/11 - 6/22	All 3 institutes have the following criteria:	20	Dr. Roy A. Weaver (317) 285-5446
	Administrative Utilization of Software for Educational Data Management and Planning	7/9 - 7/20	• hold position in area of unit subject • have computer hardware available at site	20	Dr. Roy A. Weaver (317) 285-5446
	Designing, Selecting, and Adapting Software for Use With Exceptional Children	7/23 - 8/5	• only two from same school corporation • ability to return in fall for follow up	20	Dr. Roy A. Weaver (317) 285-5446
Indiana University at Bloomington	Microcomputer Applications in Special Education	6/19 - 7/9	Any Special Ed. personnel currently employed (Chosen by lottery)	20	Dr. Herbert Rieth (812) 335-0425
	Microcomputer Graphics for Art Teachers	7/25 - 8/10	Art teachers and elementary teachers interested in art. Specific statements needed from teacher and principal	24	Dr. Guy Hubbard (812) 335-4350
	Training Teachers in Logo	7/29 - 8/3	Teachers from different sch. districts. Districts must be capable or willing to teach Logo. Superintendents will nominate 3 teachers who will complete applications and submit 3 letters of recommendations. Qualified school districts considered by date of application.	18	Dr. Theodore W. Fric (812) 335-1284
Indiana University Purdue University at Fort Wayne	(Phase I) Institute for Secondary Teachers of English	8/13 - 8/24	Licensed, employed teachers of English Grades 7-12. Write a statement of need.	30	Ann Merrill (219) 482-5666

16.

COLLEGE/UNIVERSITY	TITLE OF INSTITUTE(S)	DATES	SELECTION CRITERIA	# OF OPENINGS	PROGRAM DIRECTOR
Indiana University Purdue University at Indianapolis	Selection, Adaptation, and Utilization of Software for Elementary Teachers (K-6)	6/4 - 6/8	Teachers K-6 with some micro. experience. Eligible participants will be selected by lottery.	24	Dr. Jean Nicholsen (317) 264-2907
	The Word Processor in the Writing Process	6/11 - 6/15	Elementary and secondary teachers with interest in subject. (Chosen by lottery)	24	Dr. Jean Nicholsen (317) 264-2907
Indiana State University Evansville	A Computer Literacy Seminar at Indiana State University Evansville	7/10,11,12, 18,19	School corps. within an 11 county region will nominate a 2 person team (1 may be in an administrative capacity and 1 must be a teacher)	30	Dr. Robert Reid (812) 464-8600
	A Seminar in Advanced Training with Microcomputer Applications for Business Education Teachers	6/25 - 6/29	Business Ed. teachers within an 11 county region, nominated by school officials	30	Dr. Robert Reid (812) 464-8600
Indiana State University Terre Haute	Applications of Microcomputer Technology to the Work of the School Counselor	7/22 - 7/28 or 7/29 - 8/4	Must apply. Chosen by location, grade level, potential to integrate learning in programs and share with colleagues	60	Dr. Lawrence Beymer (812) 232-6311
Manchester College	Microcomputer Applications and Interfacing for Secondary School Science Teachers	7/23 - 8/2	One year secondary Science teaching experience with commitment to continue. One year experience using and programming microcomputers. Enthusiasm. Submit transcript and letter of intent. Letter of recommendation needed from Superintendent.	16	Dr. Warren K. Garner (219) 982-2141

COLLEGE/UNIVERSITY	TITLE OF INSTITUTE(S)	DATES	SELECTION CRITERIA	# OF OPENINGS	PROGRAM DIRECTOR
Purdue University Calumet	Microcomputers in the Secondary Science Curriculum	7/9 - 7/20	All 4 institutes have the following criteria:	25	Robert H. Rivers (219) 844-0520
	Microcomputers for Counselors	5/21 - 6/15	• must have successful experience in the subject area and have assignment in that area	25	Robert H. Rivers (219) 844-0520
	Microcomputers for Media Specialists	7/17 - 7/22	• not more than 2 per high school	25	Robert H. Rivers (219) 844-0520
	Wordprocessing for Teachers	5/21 - 6/15	• preference given to those with access to a micro-computer in school	25	Robert H. Rivers (219) 844-0520
Purdue University West Lafayette	A Summer Teacher Training Institute for Advanced Computer Education Training	6/11 - 8/3	• must be active in specified content area • must have access to computer equipment • must be motivated to use equipment • preference given to those with demonstrated leader-ship abilities	90	Dr. James Lehman (317) 494-5670
Saint Francis College	Summer Computing Institute for Teachers	6/18 - 6/29	Elementary and special ed. teachers employed within an 11 county area in northeastern Indiana. Applications re-viewed by screening committee.	40	Bernard Solomon (219) 432-3551
Taylor University	Integrating Language Arts and Social Studies Computer Software Into the Elemen-tary Curriculum	6/4 - 6/8 6/11 - 6/15	First come, first served - with expectation of willing-ness to train colleagues	32 32	Dr. Dan Jeran (317) 998-2751
			Total Number of Teachers	630	

18.

Indiana Consortium for Computer and High Technology Education

1985

SUMMER INSTITUTE SUMMARY

COLLEGE/UNIVERSITY	INSTITUTE TITLE	NO. OF PARTICIPANTS	FUNDING LEVEL
Ball State University	Designing Computer Assisted Instruction for Exceptional Learners	18	$12,048*
Earlham College	Acceleration	20	$15,700*
Indiana State University	Administrative Utilization of Software for Educational Data Management & Planning	60	$26,360
	Applications of Microcomputer Technology for School Counselors	60	$24,520*
	Computer Media Center Management	22	$17,923*
Indiana State University Evansville	Databases in Social Studies	20	$7,245
	Microcomputers in the Science Laboratory	16	$7,591*
	Pascal for Secondary Computer Science Teachers	20	$7,613*
Indiana University Northwest	Advanced Training in the Interfacing of Microcomputers in the Secondary Science Curriculum	15	$8,930*
Indiana University VES	Integrating an On-Line Agriculture Information Network into the Classroom	37	$8,926*
Indiana University Bloomington	Instructional Software and the Early Childhood/Elementary School Teacher	40	$12,436
	Microcomputer Graphics for Teachers	24	$18,170*
Indiana University Purdue University at Indianapolis	Logo for Elementary Teachers	20	$8,690*
	Using Microcomputers for Improving Testing and Measurement Skills	20	$8,331*

EXHIBIT V

Manchester College	Microcomputer Applications and Interfacing for Secondary School Science Teachers	14	$15,680
Purdue University Calumet	Advanced Applications of Microcomputers and School Media Specialists	20	$8,160
	Computers in Elementary School Mathematics	20	$7,198
	Computers in Foreign Language Education	20	$8,387*
	Computers in Kindergarten and Primary Education	20	$7,805
	Integrating the Computer into Teaching Writing Across the Curriculum	20	$6,959
	Microcomputers and the School Library and School Media Specialist	20	$8,141
Purdue University Fort Wayne	Integrating the Computer into the Elementary Reading Program	20	$14,667*
	Computer Assisted Instruction	28	$15,524*
	Using the Computer to Teach Secondary/Middle School Students to Write	20	$8,527*
	Using the Computer to Teach Social Studies in the Secondary/Middle School	20	$8,527*
University of Evansville	An Introduction to Telecommunications for Educators	11	$13,354
		625	$307,412

*To be paid from 1986 allocation.

1986 SUMMER INSTITUTES
SPONSORED BY
THE INDIANA CONSORTIUM FOR COMPUTER AND HIGH TECHNOLOGY EDUCATION
(Call Contact Persons Listed for Full Details)

BALL STATE UNIVERSITY

Institute Name:	Advanced Logo: Artificial Intelligence
Dates:	July 14 - July 18 (Number of Openings: 15)
Contact Persons:	John Merbler (317) 285-5700 Dale Lawver: (317) 285-5700
Selection Criteria:	Must have knowledge of programming language and LOGO experience.

INDIANA STATE UNIVERSITY

Institute Name:	Administrative Utilization of Software for Data Management and Planning
Dates:	June 22 - June 28 (Number of Openings: 60)
Contact Person:	Glen J. Brown (812) 237-2905
Selection Criteria:	Request questionnaire. Preference given to advanced users.

Institute Name:	Advanced Media Center Computer Management Institute
Dates:	August 4 - August 15 (Number of Openings: 26)
Contact Persons:	James Thompson (812) 237-2937 Lawrence Reck (812) 237-2937
Selection Criteria:	Practicing media specialists. Request application.

Institute Name:	Advanced Skills in Microcomputer Utilization for School Counselors
Dates:	July 13 - July 25 (Number of Openings: 50)
Contact Person:	Lawrence Beymer (812) 237-2863
Selection Criteria:	Preference given to school counselors with advanced computer experience.

INDIANA UNIVERSITY, BLOOMINGTON
(Vocational Education Services)

Institute Name:	Occudata Institute: Using the Occupational Data Analysis System Designing Vocational Programs
Dates:	July 8 - July 11 (Number of Openings: 20) July 15 - July 18 (Number of Openings: 20)
Contact Person:	James Pershing (812) 335-6711
Selection Criteria:	Preference given to applicants with curriculum and program development responsibilities. No previous experience with computers required.

INDIANA UNIVERSITY, BLOOMINGTON

Institute Name:	Applications of Computing to School Art Instruction Level II
Dates:	July 30 - August 15 (Number of Openings: 24)
Contact Person:	Guy Hubbard (812) 335-8549
Selection Criteria:	Art teachers with previous experience in computing.

Institute Name: Interactive Videodisc Training Institute
Dates: August 7 - August 12 (Number of Openings: 20)
Contact Person: Gary Moss (812) 335-4053
Selection Criteria: Request brochure. Participants should have completed Level I training and have knowledge of BASIC. Institute will be for secondary teachers.

Institute Name: Introduction to Pascal for School Teachers
Dates: July 7 - July 11 (Number of Openings: 24)
Contact Person: Lee Ehman (812) 335-4053
Selection Criteria: Preference given to secondary math, science and and computer science teachers.

Institute Name: Microcomputer Graphics for Art Teachers Level I
Dates: July 11 - July 29 (Number of Openings: 24)
Contact Person: Guy Hubbard (812) 335-8549
Selection Criteria: Art teachers with support of local principal.

Institute Name: SuperPilot for Teachers
Dates: June 2 - June 18 (Number of Openings: 24)
Contact Person: Lewis Polsgrove (812) 335-9779
Selection Criteria: Request questionnaire. Participants must have experience with computers.

INDIANA UNIVERSITY-PURDUE UNIVERSITY AT INDIANAPOLIS

Institute Name: Interactive Videodisc Training Institute
Dates: July 14 - 18 (Number of Openings: 20)
Contact Person: Marv Ebbert (317) 264-7442
Selection Criteria: Request Brochure. Participants should have completed Level I training and have knowledge of BASIC. Institute will be for elementary teachers.

INDIANA UNIVERSITY FOR INDIANA UNIVERSITY NORTHWEST

Institute Name: Advanced Training in the Interfacing of Microcomputers in the Secondary Science Classroom
Dates: July 7 - July 11 (Number of Openings: 15)
Contact Person: Janet Woerner (219) 980-6522
Selection Criteria: Request brochure. Preference given to secondary science teachers.

Institute Name: Techniques and Applications of Microcomputer Based Laboratory
Dates: August 11 - August 15 (Number of Openings: 15)
Contact Persons: Janet Woerner (219) 980-6522
Terrence Lukas (219) 980-6522
Selection Criteria: Request brochure. Preference given to secondary science teachers throughout Indiana.

MANCHESTER COLLEGE

Institute Name:	Microcomputer Applications for Secondary Science Teachers
Dates:	June 16 - June 27 (Number of Openings: 20)
Contact Persons:	L. Dwight Farringer (219) 982-2141) Albert Williams (219) 982-2141)
Selection Criteria:	Must have one year of experience teaching secondary science or math and using computers.

PURDUE UNIVERSITY/CALUMET CAMPUS

Institute Name:	An Advanced Computer Institute for School Media Specialists
Dates:	May 1 - June 30 (Number of Openings: 20)
Contact Person:	Dorothy Johnson (219) 844-0520
Selection Criteria:	Request Brochure listing participant requirements.

Institute Name:	Computer Tools for Writing Instruction
Dates:	May 1 - June 30 (Number of Openings: 20)
Contact Person:	Dorothy Johnson (219) 844-0520
Selection Criteria:	Must have experience with word processing.

Institute Name:	Logo for Upper Elementary and Middle School Teachers
Dates:	May 1 - June 30 (Number of Openings: 20)
Contact Persons:	Roberta Dees (219) 844-0520 Dorothy Johnson (219) 844-0520
Selection Criteria:	Must be teachers in grades 4-8 with two years of teaching experience.

PURDUE UNIVERSITY/FORT WAYNE

Institute Name:	Developing CAD Skills for the Industrial Arts Class
Dates:	July 14 - July 18 (Number of Openings: 16)
Contact Person:	Matthew Kubik (219) 481-6797
Selection Criteria:	Must be practicing industrial arts teachers.

Institute Name:	Using the Computer to Teach Problem-Solving in the English Class
Dates:	August 18 - August 22 (Number of Openings: 20)
Contact Person:	Helen Lee (219) 481-6446
Selection Criteria:	Must be practicing secondary English teachers.

Institute Name:	Using the Computer to Teach Problem-Solving in the Social Studies Classroom
Dates:	August 11 - August 15 (Number of Openings: 20)
Contact Person:	Helen Lee (219) 481-6446
Selection Criteria:	Must be practicing secondary social studies teachers.

PURDUE UNIVERSITY/WEST LAFAYETTE

Institute Name:	Interactive Video
Dates:	June 12 - August 6 (Number of Openings: 15)
Contact Person:	James Lehman (317) 494-5670
Selection Criteria:	Must have access to computer equipment. Access to interactive video equipment is desirable.

TAYLOR UNIVERSITY

Institute Name:	Integrating Software Into Elementary Curriculum and Instruction
Dates:	July 28 - August 1 August 4 - August 8
Contact Person:	Daniel Jeran (317) 998-5200
Selection Criteria:	Participants selected from Blackford and Grant counties plus adjacent districts by local superintendents.

UNIVERSITY OF SOUTHERN INDIANA

Institute Name:	Electronic Spreadsheets for Secondary School Business Teachers
Dates:	June 23 - June 27 (Number of Openings: 20)
Contact Person:	Charles Price (812) 464-1954
Selection Criteria:	Must be high school business education teachers.

Institute Name:	Computer Enriched Social Studies
Dates:	Section I: June 16 - June 20 (Number of Openings: 20) To be held in Evansville, Indiana Section II: July 28 - Aug. 1 (Number of Openings: 20) To be held in Jeffersonville, Indiana
Contact Person:	Charles Price (812) 464-1954
Selection Criteria:	Must be social studies teachers with working knowledge of PFS:file.

Institute Name:	Microcomputers in the Science Laboratory
Dates:	June 23 - June 27 (Number of Openings: 16)
Contact Person:	Charles Price (821) 464-1954
Selection Criteria:	Must be secondary science teachers with access to Apple or Commodore computers.

FORMULA ALLOCATIONS

The primary Consortium vehicle for providing specialized computer related training opportunities is the allocation of funds directly to local school corporations. For each of the biennial periods, (1983-85 and 1985-87), $1.1 million has been budgeted to this account.

This mechanism is intended to provide local schools with the flexibility to fund specific advanced training programs consistent with local needs and priorities. Specific objectives of this funding mechanism are to:

- Distribute funding for advanced training in a manner which is both equitable and responsive to local needs;
- Create a market for the services of teacher training institutions and other organizations capable of delivering advanced computer related training to teachers;
- Provide local school corporations with the flexibility to select training participants and adopt reimbursement practices consistent with local school policies.

The total amount of funding available to a school corporation is determined by formula. The funding is allocated based on a combination of a flat rate ($1000 for each of the 305 local school corporations) and a rate per pupil ($.85 for each of approximately 935,000 pupils in grades 1 through 12). Examples of the funding to various sized school corporations are provided below:

- School Corporation A	$27,993
(32,933 pupils)	1,000
	$28,993
- School Corporation B	$ 398
(468 pupils)	1,000
	$ 1,398

It is the responsibility of the school corporation to determine how the allocated funds are to be expended subject to guidelines established by the Consortium and listed below:

1. Funding is available to any public school corporation authorized by law to establish public schools and to levy taxes for their maintenance.
2. Only instructional personnel employed by the school corporation may benefit from the funds allocated to that school corporation.

3. Allocated funds are to be expended for training related to one or more content areas:

   - o Curriculum development for computer literacy programs.
   - o Specific subject area applications.
   - o Creation of CAI packages.
   - o Training in specialized programming languages.
   - o Development of programs using interactive technology.
   - o Evaluation and selection of software.
   - o Telecommunications.
   - o Applications for special teacher populations (e.g. counselors)
   - o Use of authoring packages.
   - o Administrative applications.
   - o Other areas as approved.

4. The expenditure of allocated funds must be supported by an application which identifies the beneficiary of the training, the subject area and hours of instruction, the organization or individual providing the training, and the amount of the proposed expenditure.

5. The amount expended to provide training for any one individual should not exceed $500.

6. Approval of applications will be granted by the Department of Education staff in accordance with Consortium guidelines.

7. Collaborative training efforts involving more than one school corporation are allowable.

Elgible expenditure may include, but are not limited to, the following:

- Contracted personnel services.
- Training materials.
- Participant stipends.
- Substitute pay.
- Travel.
- Tuition.

The following is a sample of proposals from various school corporations which were approved for expenditure of formula allocation funds:

Carmel Clay Schools--The school administrators notified all teachers about the availability of funds for specialized training and allowed the teachers to submit their own proposals. Five teachers requested support for attending "Introduction to Apple Logo in the Classroom," a workshop sponsored by the Minnesota Educational Computing Consortium.

MSD Mount Vernon (Posey County)—The Business Education teachers who will be using a new computer system for teaching computer programming, word processing and accounting were able to take advantage of specialized training provided by the venor beyond that training that was provided with the procurement.

TECHNOLOGY ACCOUNT

The School Technology Advancement Account within the Common School Fund was established for the purpose of providing local school corporations with loans to fund the development of computer education programs. The Indiana Consortium for Computer and High Technology Education was given the responsibilty of advising the Commission on General Education on the administration of the School Technology Advancement Account.

A total of $10 million was set aside for each operational bienneum to provide low-interest computers-in-education loans to local school corporations. The money was available for the purchase of computers and other related hardware or educational software and instructional record-keeping programs. Loans approved thus far have ranged from $20,000 to over $1,000,000 for instructional purposes, management purposes or a combination of instructional and management purposes.

Interest for the computer-education loans (approximately 7%) was set by a process outlined in Indiana law. Repayment schedules are from two to five years, depending on the amount of the loan.

CLEARINGHOUSE/PREVIEW CENTERS

The Indiana Consortium for Computer and High Technology Education established the Indiana Clearinghouse for Computer Education (ICCE) on the campus of Indiana University Purdue University at Indianapolis in January of 1984. ICCE provides educators throughout the state with a full range of services to assist in the selection and utilization of computer hardware and software for instructional purposes.

Among the services provided by ICCE is a Preview Center which allows Indiana educators to preview hardware and software in advance of purchase. The center currently contains fourteen (14) different types of computers, representing those commonly used for instructional purposes in Indiana schools. Also included is an expanding collection of software which currently numbers in excess of 1500 titles. The majority of the programs are related to instruction, representing all grade levels and virtually all subject areas. A small percentage of the collection represents administrative programs appropriate for school administrators.

In June of 1984, four of the Regional Training Sites were awarded grants to operate as Regional Preview Centers. The function of these Regional Preview Centers is to enhance access to hardware and software for preview purposes from the area served and to provide selected services which can be delivered more effectivley on a regional basis.

Access to thousands of reviews of hardware and software products is provided to Indiana teachers by the Clearinghouse and the Regional Preview Centers. The reviews have been collected from a variety of national, regional and local sources and are available in online or hardcopy format. The ICCE staff has obtained copyright clearance in order to make them available to Indiana educators upon request.

A collection of publications relative to instructional technology is maintained at the Clearinghouse and Preview Centers for distribution upon request. A newletter, the PRINTOUT, is published monthly during the school year and made available to Indiana teachers without charge upon request. Currently, 1,600 educators are receiving the PRINTOUT on a regular basis.

COMPUTING CONFERENCES

The Indiana Consortiun for Computer and High Technology Education sponsored two statewide computing conferences in 1985. The conferences were designed to provide an opportunity to instructional personnel and administrators from across the state to examine critical issues and promising programs in the instructional use of computers. Specific objectives of the conferences include:

Provide a forum for addressing "state of the art" issues in instructional computing.

Provide a forum for recognizing excellence in school instructional computing programs and for sharing ideas among schools.

Support the continuing professional development of teachers and administrators with a high level of interest and accomplishment in the field of instructional computing.

The Conference on Instructional Computing, designed for teaching personnel in Indiana school districts, was held in Indianapolis on March 17, 18, and 19, 1985. School districts were allocated from one to five delegates, based on the student population of the corporation. The Conference was attended by 435 delegates, representing 257 school corporations (82.5% of school corporations) and 105 guests (Consortium members, Department of Education staff, presiders and other governmental officials).

A conference jury reviewed 109 applications, filed by potential presenters, and selected 42 speakers for the conference. Seventy-two presentations, covering forty-five topics, were made during the conference.

The Administrative Computing in Education (ACE) Conference, designed for Indiana school administrators, was held in Indianapolis on June 11 and 12, 1985. The conference was attended by 195 local school administrators representing 104 school corporations (34% of school corporations) and 35 guests (Consortium members, presiders, Department of Education staff and other governmental officials).

The ACE Conference featured curricular as well as administrative computer applications in a total of 8 concurrent sessions. Two of the eight sessions were "application centers" where participants worked hands-on with a wide variety of application packages. Twenty-five representatives from the private sector worked with participants to answer questions and explore software.

DEMONSTRATION PROGRAMS

In its 1985-87 plan, the Indiana Consortium for Computer and High Technology Education, set aside funding for demonstration projects to support the development of instructional computer capabilities in Indiana's elementary and secondary schools by coordinating programs to demonstrate to school corporation perscnnel the use of computers as instructional tools. The primary interest of the Consortium is to promote integration of computers and computer technology into the curriculum, thereby providing more effective learning opportunities for students.

Self Contained Classroom Demonstration Project grants were awarded to nine school corporations in April, 1986. The objective of the Consortium in this project is to demonstrate the effect of integrating computers into the curriculum of a third, fourth or fifth grade self contained classroom during the 1986-1987 school year. One proposal from each of the Regional Training Center regions was funded according to the following criteria:

Proposals must:

demonstrate a high degree of integration of the computer into the curriculum;

demonstrate that the computers will be used to enhance the instruction in a broad range of curricular areas;

demonstrate that the expected benefits of the integration of the computers into the curriculum have been throughly examined;

demonstrate that the activities for which the computers will be used will enhance the curriculum of the classroom;

demonstrate that a 2:1 student computer ratio will be maintained during the course of the project;

and ensure that information regarding the project will be shared with interested school corporations in cooperation with the Indiana Clearinghouse for Computer Education.

Local Initiative Programs were also funded in April of 1986. The Consortium's goal in this program is to promote new and improved ways of using computers in schools by eliciting creative, innovative ideas from local schools. These projects will also be operational during the 1986-1987 school year.

LOCAL INITIATIVE GRANT
PROJECT ABSTRACTS

Corporation Name: Clinton Prairie School Corporation

Project Name: The WRITE Way

Funding: $42,000

Description: The project will utilize a networked lab of 12 MACINTOSH Computers with "Macwrite" and ALPS "Writing Lab" software to improve writing skills of tenth, eleventh and twelfth grade students. The project will integrate writing into the curriculum in an attempt to improve overall writing, vocabulary, spelling and other related skills.

Corporation Name: Crawford County Community School Corporation

Project Name: Career Education for Ninth and Sixth Graders

Funding: $46,639

Description: The project will provide structured opportunities for career exploration for 172 sixth grade students and 980 junior and senior high students. Word processing, data base management and other software will be used by students as they explore career opportunities.

Corporation Name: Fort Wayne Community Schools

Project Name: Interactive Video in the Elementary Science Curriculum

Funding: $51,186

Description: Project teachers will create interactive video lessons for existing video disc materials. Approximately 4000 fourth and fifth grade students will participate.

Corporation Name: Linton Stockton Community School Corporation

Project Name: Individualized Instruction via WICAT Hydra System

Funding: $60,000

Description: The Project will install a WICAT Hydra System to serve 330 fourth, fifth and sixth grade students Teachers will be trained to use reports available to individualize instruction for students.

Corporation Name: Madison Area Educational Special Services Unit

Project Name: Microcomputer for the Low Incidence Handicapped Student

Funding: $12,750

Description: The project will provide hardware and software that will provide severly handicapped students with a multi-sensory instructional approach and a highly individualized direct learning program. Computers will be equipped with adaptive firmware cards, speech synthesizers, expanded key boards, and key guards to allow the use of mouthsticks, headpointers and hand prods.

Corporation Name: Mississinewa Community Schools

Project Name: The Eduvision Project

Funding: $37,385

Description: The project will affect 900 sixth through eighth grade students. Hardware and software will be used with music, geography, industrial arts, health and other areas of study in an integrated curricular design.

Corporation Name: Monroe County School Corporation

Project Name: Microcomputer Based Laboratories (MBL)

Funding: $51,000

Description: The project will provide for an eight (8) computer laboratory to serve 800 science students into two (2) middle schools. Equipment at each site will be used to collect and analyze data in science projects. Teachers will be trained in each school. If warranted, other teachers will be trained in MBL procedures and techniques.

Corporation Name: Southeast Dubois School Corporation

Project Name: Computers in Industrial Manufacturing

Funding: $16,500

Description: The project will introduce computers in high school metals, graphics, woods and drafting classes and junior high industrial arts classes. Hardware to be purchased in the project includes a Rhino Robot and CNC Lathe.

GRANT AWARD TOTAL: $317,460.00